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(54) ELECTRONIC CAMERIMAGE DISPLAY DEVICE AND IMAGE DISPLAY METHOD

(57) Abstract:

PROBLEM TO BE SOLVED: To instantaneously extract and display relating information (individual information and explanationetc.) relating to an object in the case that a browsing person is interested in the object (a human body and a structureetc.) projected on a screen when reproducing and browsing image data photographed by an electronic camera.

SOLUTION: When performing photographing with an electronic camerathe electronic camera detects the position of an object in a photographing image and the electronic camera gathers the relating information regarding the object by communicating with the objectadds the relating information to the image data in relation to the position within the photographing image and stores it. When reproducing and browsing the image datawhen a user specifies the object that the/she is interested in on a reproducing imagethe relating

information corresponding to the specified position on the reproducing image is read and displayed.

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## CLAIMS

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[Claim(s)]

[Claim 1]An electronic camera characterized by comprising the following for photoing a photographic subject.

An imaging means which photos a photographic subject in a photography screen according to a photographing optical system and generates image data.

An information gathering means which collects photographic subject information relevant to a photographic subject from this electronic equipment by communicating between electronic equipment which said photographic subject holds.

A correlation means which relates said photographic subject information with a position in said photography screen.

[Claim 2]An electronic camera wherein said information gathering means performs a radio traffic in the electronic camera according to claim 1 between electronic equipment which said photographic subject holds.

[Claim 3]An electronic camera restricting a radio-traffic range to prescribed distance within the limits from said electronic camera by limiting a transmission output level of said radio wave signal in the electronic camera according to claim 2 while said information gathering means communicates with a partner's electronic equipment using a radio wave signal.

[Claim 4]An electronic camera changing a transmission output level of said radio wave signal in the electronic camera according to claim 2 according to distance to said photographic subject while said information gathering means communicates with a partner's electronic equipment using a radio wave signal.

[Claim 5]An electronic camera wherein said information gathering means enlarges a transmission output level of said radio wave signal in the electronic camera according to claim 4 as distance to said photographic subject becomes large.

[Claim 6]An electronic camera changing a transmission output level of said radio wave signal in the electronic camera according to claim 2 according to a focal distance of said photographing optical system while said information gathering means communicates with a partner's electronic equipment using a radio wave signal.

[Claim 7]An electronic camera wherein said information gathering means enlarges a transmission output level of said radio wave signal in the electronic camera according to claim 6 as a focal distance of said photographing optical system

becomes large.

[Claim 8] An electronic camera wherein said information gathering means has the directivity of a radio traffic strong against a direction with high probability that a photographic subject exists in the electronic camera according to claim 2.

[Claim 9] An electronic camera wherein said information gathering means has the directivity of a radio traffic strong against bearing of the exposure axis in alignment with an optic axis of said photographing optical system in the electronic camera according to claim 8.

[Claim 10] An electronic camera starting said information gathering means in the electronic camera according to claim 1 by operation of electronic equipment which said photographic subject holds and collecting photographic subject information relevant to a photographic subject from this electronic equipment.

[Claim 11] An electronic camera wherein said information gathering means does not collect photographic subject information from electronic equipment defined beforehand in the electronic camera according to claim 1.

[Claim 12] An electronic camera characterized by said electronic equipment defined beforehand being electronic equipment which a photography person who operates said electronic camera possesses in the electronic camera according to claim 11.

[Claim 13] In the electronic camera according to claim 1 said information gathering means An electronic camera collecting photographic subject information relevant to a photographic subject from this electronic equipment by communicating between electronic equipment which said photographic subject holds to the timing near the timing to photo [ said ] a photographic subject.

[Claim 14] In the electronic camera according to claim 1 said information gathering means An electronic camera collecting photographic subject information relevant to a photographic subject from this electronic equipment by communicating between electronic equipment which carries out start operating to timing with said imaging means unrelated to timing which photos a photographic subject with hand control and said photographic subject holds.

[Claim 15] An electronic camera collecting photographic subject information relevant to a photographic subject from this electronic equipment by communicating between electronic equipment which starts said information gathering means once to photographing operation of multiple times by said imaging means and said photographic subject holds in the electronic camera according to claim 1.

[Claim 16] An electronic camera wherein said electronic camera is provided with an inhibiting means which forbids operation of said information gathering means in said continuous shooting mode in the electronic camera according to

claim 1 while it is provided with a continuous shooting mode which carries out the seriography of the photographic subject by said imaging means.

[Claim 17]An electronic camerawherein said information gathering means performs a radio traffic with two or more kinds of radio system in the electronic camera according to claim 2 between electronic equipment which said photographic subject holds.

[Claim 18]An electronic camera characterized by comprising the following for photoing a photographic subject.

An imaging means which photos a photographic subject in a photography screen according to a photographing optical systemand generates image data.

An information gathering means which collects photographic subject information relevant to said photographic subject.

A correlation means which relates said photographic subject information with a position in said photography screen.

[Claim 19]An electronic camera characterized by relating said photographic subject information with a position in said photography screen by position information in said screen in the electronic camera according to claim 18 while said correlation means detects position information in a screen which shows a position of said photographic subject in said photography screen from claim 1.

[Claim 20]A positioning means which detects a position of said electronic camera and generates camera position information in the electronic camera according to claim 19Have further an attitude detecting means which detects a posture of said electronic camera and generates camera attitude informationand said correlation meansWhile collecting object position information which expresses a position to a photographic subject from this electronic equipment by communicating between electronic equipment which said photographic subject holdsAn electronic camera detecting position information in a screen which shows a position in a photography screen of said photographic subject based on a focal distance of said photographing optical systemphotographing field angle information searched for from image pick-up size of said imaging meanssaid object position informationsaid camera position informationand said camera attitude information.

[Claim 21]In the electronic camera according to claim 19said correlation meansWhile performing a radio traffic between electronic equipment which said photographic subject holdsscanning inside of said photography screen with a narrow directional radio-traffic antennaAn electronic camera detecting position information in a screen which shows a position in a photography screen of said photographic subject based on a scanning position when said electronic equipment and a radio traffic are materialized in said photography

screen.

[Claim 22] In the electronic camera according to claim 19 said correlation means An electronic camera detecting position information in a screen which shows a position in a photography screen of said photographic subject by detecting the light-receiving position while receiving infrared rays which the infrared point light source with which electronic equipment which said photographic subject holds is provided emits by a two-dimensional infrared sensor.

[Claim 23] An electronic camera wherein said correlation means detects position information in said screen to the timing near the timing to photo [ said ] a photographic subject in the electronic camera according to claim 19.

[Claim 24] An electronic camera carrying out start operating of said correlation means to timing with said imaging means unrelated to timing which photos a photographic subject with hand control in the electronic camera according to claim 19 and detecting position information in said screen.

[Claim 25] An electronic camera wherein said correlation means detects position information in a screen which analyzes an object position in a photography screen and shows a position of said photographic subject in said photography screen by conducting image analysis of said image data in the electronic camera according to claim 19.

[Claim 26] In the electronic camera according to claim 25 said information gathering means While extracting photographic subject information added to searched similar image data while searching similar image data similar to image data of said photographic subjects said correlation means An electronic camera relating said photographic subject information with a position in said photography screen by position information in a screen searched for by said image analysis.

[Claim 27] In the electronic camera according to claim 25 said information gathering means While specifying a photographic subject and acquiring photographic subject information about a specified photographic subject from sources of information on a network by network communication by conducting image analysis of said image data An electronic camera wherein said correlation means relates said photographic subject information with a position in said photography screen by position information in a screen searched for by said image analysis.

[Claim 28] An electronic camera adding said photographic subject information related with a position in said photography screen in the electronic camera according to claim 27 from claim 1 to said image data and having a memory measure which generates and memorizes a graphics file.

[Claim 29] From claim 1 to the electronic camera according to claim 28 characterized by comprising the following.

An image display means which displays said image data on a display screen. A tab-control-specification means to specify a position on said display screen as which said image data was displayed.

An information display means which displays photographic subject information related with a position in a photography screen corresponding to a position specified by said tab-control-specification means.

[Claim 30] In the electronic camera according to claim 29 if a user specifies a photographic subject which has a touch tablet for tab control specification with a light transmittance state installed on said display screen and was displayed on said display screen by finger or other members said tab-control-specification means An electronic camera said touch tablet's detecting a specified this position and specifying a position in said display screen according to this detection position.

[Claim 31] In the electronic camera according to claim 29 while said photographic subject information includes access information of sources of information on a network which accumulated detailed information about said photographic subject An electronic camera wherein said information display means acquires detailed information about said photographic subject from sources of information on a network which access information which said photographic subject information includes shows by network communication and displays acquired information.

[Claim 32] In an electronic camera given in the claim 29 while said image display means and said information display means use a common display screen An electronic camera when said information display means displays said photographic subject information on said display screen wherein it displays image data reduced to some fields of said display screen.

[Claim 33] An electronic camera wherein said photographic subject information includes speech information in the electronic camera according to claim 32 from claim 1.

[Claim 34] In the electronic camera according to claim 33 said information gathering means While acquiring speech information which uses a narrow directivity microphone from a photographic subject in said photography screen at the time of photography and a photographic subject utters said correlation means An electronic camera relating said speech information with a position in said photography screen by position information in a screen searched for according to the directive high direction of said narrow directivity microphone.

[Claim 35] An electronic camera characterized by comprising the following for photoing a photographic subject.

An imaging means which photos a photographic subject in a photography screen

according to a photographing optical system and generates image data. An information gathering means which collects transmission destination information from this electronic equipment to said photographic subject of said image data by communicating between electronic equipment which said photographic subject holds at the time of photography. A transmitting means which transmits said image data to said photographic subject based on said transmission destination information after photography.

[Claim 36] Image data which photoed a photographic subject characterized by comprising the following in a photography screen and information related with a position in said photography screen of said photographic subject.

A reading means which reads a graphics file which stored photographic subject information which is information relevant to said photographic subject.

An image display means which displays image data contained in said graphics file on a display screen.

A tab-control-specification means to specify a position in said display screen as which said image data was displayed.

An information display means which displays photographic subject information related with a position in a photography screen corresponding to a position specified by said tab-control-specification means.

[Claim 37] An image display device characterized by said tab-control-specification means being a pointing device operated by user in the image display device according to claim 36.

[Claim 38] It is a touch tablet for tab control specification which has a light transmittance state by which said pointing device was installed on said display screen in the image display device according to claim 37. An image display device detecting a this specified position and specifying a position in said display screen according to this detection position if a user specifies a photographic subject displayed on said display screen by finger or other members.

[Claim 39] An image display device characterized by said tab-control-specification means being a sight line detecting means which detects a user's line of sight position to said display screen in the image display device according to claim 36.

[Claim 40] In the image display device according to claim 36 while said photographic subject information includes access information of sources of information on a network which accumulated detailed information about said photographic subject. An image display device wherein said information display means acquires detailed information about said photographic subject from sources of information on a network which access information which said

photographic subject information includes shows by network communication and displays acquired information.

[Claim 41] In an image display device given in the claim 36while said image display means and said information display means use a common display screenAn image display device when said information display means displays said photographic subject information on said display screenwherein it displays image data reduced to some fields of said display screen.

[Claim 42] An image display devicewherein said photographic subject information includes speech information in the image display device according to claim 36.

[Claim 43] An image display device comprising:

Image data which photoed a photographic subject.

A reading means which reads a graphics file which stored photographing date information which photoed said photographic subject.

An image display means which displays image data contained in said graphics file on a display screen.

An information display means which acquires pertinent information about said photographing date from sources of information on a network based on said photographing date informationand displays acquired pertinent information.

[Claim 44] An image display devicewherein said information display means reproduces said music information while displaying said image data while said pertinent information is the music information which was in fashion to photography that time in the image display device according to claim 43.

[Claim 45] An image display device characterized by said pertinent information being the news information generated in photography that time in the image display device according to claim 43.

[Claim 46] An image display method which displays image data photoed with an imaging device provided with a photographing optical systemcomprising:

An image pick-up step which photos a photographic subject in a photography screen with said photographing instrumentand generates image data.

An information gathering step which collects photographic subject information relevant to a photographic subject from this electronic equipment by communicating between electronic equipment which said photographic subject holds.

A correlation step which relates said photographic subject information with a position in said photography screen.

An information-display step which displays photographic subject information related with a position in a photography screen corresponding to a position specified by image display step which displays said image data on a display screenab-control-specification step which specifies a position in said display screen as which said image data was displayedand said tab-control-

specification step.

[Claim 47] An image display method performing a radio traffic in said information gathering step in the image display method according to claim 46 between electronic equipment which said photographic subject holds.

[Claim 48] An image display method restricting a radio-traffic range to prescribed distance within the limits by limiting a transmission output level of said radio wave signal in said information gathering step in the image display method according to claim 47 while communicating with a partner's electronic equipment using a radio wave signal.

[Claim 49] An image display method changing a transmission output level of said radio wave signal in said information gathering step in the image display method according to claim 47 according to distance to said photographic subject while communicating with a partner's electronic equipment using a radio wave signal.

[Claim 50] An image display method enlarging a transmission output level of said radio wave signal in said information gathering step in the image display method according to claim 49 as distance to said photographic subject becomes large.

[Claim 51] An image display method changing a transmission output level of said radio wave signal in said information gathering step in the image display method according to claim 47 according to a focal distance of said photographing optical system while communicating with a partner's electronic equipment using a radio wave signal.

[Claim 52] An image display method enlarging a transmission output level of said radio wave signal in said information gathering step in the image display method according to claim 51 as a focal distance of said photographing optical system becomes large.

[Claim 53] An image display method performing a radio traffic in which probability that a photographic subject exists had directivity strong against a high direction in said information gathering step in the image display method according to claim 47.

[Claim 54] An image display method performing a radio traffic which had the directivity of a radio traffic strong against bearing of the exposure axis in alignment with an optic axis of said photographing optical system in said information gathering step in the image display method according to claim 53.

[Claim 55] The image display method comprising according to claim 46:  
A request step which advances a communication request to electronic equipment by which said photographic subject holds said information gathering step.  
A judgment step which answering to this communication request in electronic equipment which said photographic subject holds judges whether lends and there

is.

A transmitting information step which transmits photographic subject information relevant to a photographic subject from said electronic equipment when it is judged that it answers to a communication request by said judgment step.

[Claim 56] In the image display method according to claim 46 said information gathering step An image display method consisting of a request step which advances a communication request to electronic equipment which said photographic subject holds a transmitting information step which transmits photographic subject information relevant to a photographic subject from said electronic equipment and an information step reported to a transmitting-in said electronic equipment—photographic subject information photographic subject.

[Claim 57] An image display method wherein said information gathering step performs a radio traffic with two or more radio system in the image display method according to claim 46 between electronic equipment which said photographic subject holds.

[Claim 58] An image display method which displays image data photoed with an imaging device provided with a photographing optical system comprising:

An image pick-up step which photos a photographic subject in a photography screen with said photographing instrument and generates image data.

An information gathering step which collects photographic subject information relevant to said photographic subject.

A correlation step which relates said photographic subject information with a position in said photography screen.

An information-display step which displays photographic subject information related with a position in a photography screen corresponding to a position specified by image display step which displays said image data on a display screen tab-control-specification step which specifies a position in said display screen as which said image data was displayed and said tab-control-specification step.

[Claim 59] An image display method which starts by operation of electronic equipment in which said photographic subject holds said information gathering means step in the image display method according to claim 58 and is characterized by collecting photographic subject information relevant to a photographic subject from this electronic equipment from claim 46.

[Claim 60] From claim 46 to the image display method according to claim 58 characterized by comprising the following.

A collection step which collects photographic subject information relevant to a photographic subject from this electronic equipment when said information

gathering step communicates between electronic equipment which said photographic subject holds.

A displaying step which displays collected photographic subject information.

[Claim 61] In the image display method according to claim 58 from claim 46 said information gathering step An image display method collecting photographic subject information relevant to a photographic subject from this electronic equipment by communicating between electronic equipment which said photographic subject holds to timing near the operation timing of said image pick-up step.

[Claim 62] In the image display method according to claim 58 from claim 46 said information gathering step An image display method collecting photographic subject information relevant to a photographic subject from this electronic equipment by communicating between electronic equipment which timing unrelated to operation timing of said image pick-up step starts with hand control and said photographic subject holds.

[Claim 63] On the image display method according to claim 58 from claim 46 and in said correlation step An image display method characterized by relating said photographic subject information with a position in said photography screen by this position information in a screen while detecting position information in a screen which shows a position of said photographic subject in said photography screen.

[Claim 64] The image display method comprising according to claim 63:  
A positioning step which said correlation step detects a position of said imaging device and generates camera station information.

A posture detecting step which detects a posture of said imaging device and generates shooting posture information.

A step which collects object position information which expresses a position to a photographic subject from this electronic equipment by communicating between electronic equipment which said photographic subject holds.

A step which detects position information in a screen which shows a position in a photography screen of said photographic subject based on a focal distance of said photographing optical system photographing field angle information searched for from image pick-up size of said imaging device said object position information said camera position information and said camera attitude information A step which relates said photographic subject information with a position in said photography screen by this position information in a screen.

[Claim 65] The image display method comprising according to claim 63:  
A step which performs a radio traffic between electronic equipment which said photographic subject holds while said correlation step scans inside of said

photography screen with a narrow directional radio-traffic antenna.

A step which detects position information in a screen which shows a position in a photography screen of said photographic subject based on a scanning position when said electronic equipment and a radio traffic are materialized in said photography screen.

A step which relates said photographic subject information with a position in said photography screen by this position information in a screen.

[Claim 66]The image display method comprising according to claim 63:

A step which receives infrared rays which the infrared point light source with which electronic equipment by which said photographic subject holds said correlation step is provided emits by a two-dimensional infrared sensor.

A step which detects position information in a screen which shows a position in a photography screen of said photographic subject by detecting a light-receiving position of said two-dimensional infrared sensor.

A step which relates said photographic subject information with a position in said photography screen by this position information in a screen.

[Claim 67]An image display methodwherein said correlation step is performed to timing near the timing which photos a photographic subject by said image pick-up step in the image display method according to claim 63.

[Claim 68]An image display method said correlation step's starting with hand control in the image display method according to claim 63 to timing unrelated to timing which photos a photographic subject by said image pick-up stepand detecting position information in said screen.

[Claim 69]An image display method characterized by detecting position information in a screen which analyzes an object position in a photography screen and shows a position of said photographic subject in said photography screen in the image display method according to claim 63 by conducting image analysis of said image data in said correlation step.

[Claim 70]On the image display method according to claim 69 and in said information gathering stepWhile searching similar image data similar to image data of said photographic subjectAn image display method relating said photographic subject information with a position in said photography screen in said correlation step by position information in a screen searched for by said image analysis while extracting photographic subject information added to searched similar image data.

[Claim 71]On the image display method according to claim 69 and in said information gathering stepWhile specifying a photographic subject and acquiring photographic subject information about a specified photographic subject from sources of information on a network by network communication by

conducting image analysis of said image dataAn image display method relating said photographic subject information with a position in said photography screen in said correlation step by position information in a screen searched for by said image analysis.

[Claim 72]An image display method adding said photographic subject information related with a position in said photography screen in the image display method according to claim 71 from claim 46 to said image dataand having a memory step which generates and memorizes a graphics file.

[Claim 73]While said photographic subject information includes access information of sources of information on a network which accumulated detailed information about said photographic subject in the image display method according to claim 72 from claim 46An image display method acquiring detailed information about said photographic subject from sources of information on a network which access information which said photographic subject information includes shows in said information-display stepand displaying acquired information.

[Claim 74]While using a common display screen in said image display step and said information-display step in the image display method according to claim 73 from the claim 46An image display method displaying image data reduced to some fields of said display screen when displaying said photographic subject information on said display screen at said information-display step.

[Claim 75]An image display methodwherein said photographic subject information includes speech information in the image display method according to claim 74 from claim 46.

[Claim 76]On the image display method according to claim 75 and in said information gathering stepIn [ while acquiring speech information which uses a narrow directivity microphone from a photographic subject in said photography screen at the time of photographyand a photographic subject utters ] said correlation stepAn image display method relating said speech information with a position in said photography screen by position information in a screen searched for according to the directive high direction of said narrow directivity microphone.

[Claim 77]An image pick-up step which is an image display method which displays image data photoed with an imaging device provided with a photographing optical systemphotos a photographic subject in a photography screen with said photographing instrumentand generates image data.

An information gathering step which collects photographic subject information relevant to a photographic subject from this electronic equipment by performing a radio traffic between electronic equipment which said photographic subject holds.

A displaying step which displays said image data and said photographic subject

information.

It is the image display method provided with the above and a radio traffic with the directivity of a radio traffic strong against bearing of the exposure axis in alignment with an optic axis of said photographing optical system is performed in said information gathering step.

[Claim 78] An image pick-up step which is an image display method which displays image data photoed with an imaging device provided with a photographing optical system photos a photographic subject in a photography screen with said photographing instrument and generates image data.

An information gathering step which collects photographic subject information relevant to a photographic subject from this electronic equipment by performing a radio traffic using a radio wave signal between electronic equipment which said photographic subject holds at the time of photography.

A displaying step which displays said image data and said photographic subject information.

It is the image display method provided with the above and a transmission output level of said radio wave signal is changed in said information gathering step according to a focal distance of said photographing optical system.

[Claim 79] An image pick-up step which is an image display method which displays image data photoed with an imaging device provided with a photographing optical system photos a photographic subject in a photography screen with said photographing instrument and generates image data.

An information gathering step which collects photographic subject information relevant to a photographic subject from this electronic equipment by performing a radio traffic using a radio wave signal between electronic equipment which said photographic subject holds at the time of photography.

A displaying step which displays said image data and said photographic subject information.

While being the image display method provided with the above and detecting distance to said photographic subject in said information gathering step at the time of photography a transmission output level of said radio wave signal is changed according to distance to said photographic subject.

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#### DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] While this invention memorizes to a storage the electronic image data which photoed the desired photographic subject with the electronic cameraThe electronic camera which reads electronic image data from this storageand carries out the repeat display of this electronic image data to a predetermined screenIt is related with the electronic camerimage display deviceand picture display system which perform the information display relevant to image data from the screen which carried out the repeat display especially of the image data about an image display device and a picture display system.

[0002]

[Description of the Prior Art]Carrying out the repeat display of this image dataand perusing it on the screen of a personal computer to which image data was transmittedis performed from the liquid crystal display screen and this memory card of the electronic camera which memorizes the image data photoed with the electronic camera to memory card in the travel destination etc.became behindand equipped with this memory card.

[0003]

[Problem(s) to be Solved by the Invention]In the inspection of the above conventional electronic image datait was only appreciating the picture by which the repeat display was carried outand the deployment to information practical use other than the inspection using a picture was difficult. For examplewhen to know about the historical building etc. which are copied by the picture was wished in the midst of perusing the picturethe inspection of the picture was once stoppedand it had to investigate with the encyclopedia and had to refer to the Internet. Even if the person's personal information (a namea hobby) etc. which are copied by the picture interested in the midst of perusing the picturethe person's personal information was not able to be known immediately on that spot.

[0004]Thenan object of this invention is to provide the electronic camerimage display deviceand image display method which cooperate with the repeat display of electronic image dataand can peruse simple and promptly the information relevant to the photographic subject reflected all over the screen which got interested when carrying out the repeat display of the electronic image data and perusing it.

[0005]

[Means for Solving the Problem]In an electronic cameraan image display deviceand an image display method according to this invention in order to attain the above-mentioned purposeWhile adding pertinent information on said photographic subject related with a position of a photographic subject in a

screen to electronic image data and memorizing it when the repeat display of said electronic image data is carried out according to a position in a screen pertinent information on said photographic subject is displayed.

[0006]

[Embodiment of the Invention] Hereafter the embodiment of this invention is described with reference to drawings. Drawing 1 is a key map of the embodiment of this invention and an electronic camera obtains pertinent information from the photographic subject and sources of information which are near the camera by a radio traffic while photoing the photographic subject in a photographing area. The pertinent information on a photographic subject is matched with the position of the photographic subject in a photography screen is added to the image data photoed with the pertinent information on other and serves as a graphics file.

[0007] When reproducing a graphics file the repeat display of the image data first photoed as a home screen is carried out. Next by specifying the position in a screen in a home screen the pertinent information about the photographic subject by which the repeat display was carried out to the position is displayed on a screen. The pertinent information further linked to the information from the displayed pertinent information can be displayed.

[0008] Drawing 2 is a key map of the electronic image communications system using the electronic camera which applied this invention and this electronic camera. In drawing 1 the electronic camera 100 is provided with a memory card and saves the electronic image data or digital image data (it is called the image data below) which photoed the field which enters in the photography screen of prescribed size at a memory card. The electronic camera 100 communicates with the cellular phone 160 which was provided with the short-distance-radio communication function (for example blue TSUSU whose range which can be communicated is about radius 10m) and was similarly provided with the short-distance-radio communication function. It is assumed that the person who becomes a photographic subject of the electronic camera 100 possesses this cellular phone 160 and this cellular phone 160 is equipped with UIM card (User Identify Module card) 170 in which the user's personal information was stored. Positioning means (position detecting means) such as GPS are built in this cellular phone 160.

[0009] If the person who becomes a photographic subject with the electronic camera 100 is photoed the personal information of the person who becomes a photographic subject will be transmitted to the electronic camera 100 by communication of the cellular phone 160 which the person who becomes the electronic camera 100 and a photographic subject possesses. The electronic camera 100 detects the position in the photography screen of the person who becomes a photographic subject by the method of mentioning later makes a set

this position information in a screenand said personal informationand memorizes it to memory card as a graphics file with the photoed image data. The electronic camera 100 transmits said graphics file to the personal computer 140 and the image database 150 of personal use via the base transceiver station 120 by the radio cellular-phone circuit 190 via [ the general public telephone circuit or the Internet 130 of a cable or radio ] further.

[0010]The electronic camera 100 can be provided with a liquid crystal display screen can read the graphics file saved at the memory card and can carry out a repeat display to said liquid crystal display screen. Furthermore via said radio cellular-phone circuit 190 and the Internet 130 the electronic camera 100 can access various information servers and information sites based on the pertinent information on a photographic subject can obtain the detailed information about a photographic subject and can carry out the repeat display of this information to said liquid crystal display screen.

[0011]The personal personal computer 140 can be provided with a CRT display screen can read the graphics file saved at the image database 150 and can carry out a repeat display to said CRT display screen. Furthermore via the Internet 130 the personal personal computer 140 can access various information servers and information sites based on the pertinent information on a photographic subject can obtain the detailed information about a photographic subject and can carry out the repeat display of this information to said CRT display screen.

[0012]Drawing 3 and drawing 4 are the outline views (front view and back view) of one embodiment of the electronic camera 100 shown in drawing 2. As shown in drawing 3 in the front face of the electronic camera 100 an object image. In order to hold the light measurement circuit 13 for detecting the stroboscope 12 for illuminating a photographic subject at the time of the finder 11 for checking the taking lens 10 for forming and a photography screen and photography and the luminosity of a photographic subject and the electronic camera 100 by hand. the electric power switch 17 (man [ a mho ] -- it being a tally switch and) for performing ON/OFF control of the release button 16 for having the grip part 14 which protruded from the camera body and directing a photographing start on the upper surface and the power supply of the electronic camera 100 every operation -- ON and OFF -- changing -- it has.

[0013]As shown in drawing 4 at the back of the electronic camera 100 The eye contacting part of the finder 11 Right LCD (right screen) 22 [ provided with the screen of left LCD (left screen) 21 / provided with the screen of a text and the approximately quadrangle for image display / the object for text displays and the approximately quadrangle for image display ] is arranged Near the left-hand side of left LCD 21 the picture displayed on the left screen 21. The above button 23 and the down button 24 for switching around right LCD 22 and

left LCD21 for the determination of the information-display mode button 28 for setting it as the reproduction mode button 26 for setting the electronic camera 100 as the photography mode button 25 for setting it as photographing modeand reproduction modeand information-display modeand selections. The determination button 29 used is arranged. The side is equipped with the memory card slot 30 for equipping with the memory card 104.

[0014]The release button 16the above button 23the down button 24the photography mode button 25the reproduction mode button 26the information- display mode button 27the transmission button 28and the determination button 29 are operation keys altogether operated by the user. What is called the touch tablet 66 provided with the function which outputs the position data corresponding to the position directed by the contact operation of the finger on the surface of left LCD21 and right LCD22 is arrangedand it can use for selection of selections and the photographic subject which were displayed on the screen. This touch tablet 66 is constituted by transparent materialssuch as glass resinand the user can observe the picture and text which are formed inside the touch tablet 66 through the touch tablet 66.

[0015]Drawing 5 is a block diagram showing the example of electric composition inside the electronic camera 100 shown in drawing 3 and drawing 4and each component is mutually connected via the data / control bus 51 for transmitting variety-of-information data and control data. Each component is roughly classified into the following five blocks. A block centering on the photography control circuit 60 which performs photographing operation of image dataThe block consisting mainly of the wireless communication circuit 71 which communicates by radio (blue TSUSU etc.) between the electronic equipment near the electronic camera 100and the wireless telephone circuit 72 which performs transmission and reception of the exterior and data using a radio cellular- phone circuitA block centering on the screen control circuit 92 which performs presenting of the block of the memory card 104 which memorizes and saves a graphics fileimage dataand its pertinent informationIt is a block centering on CPU50 which performs generalization control to the user interface and each control circuit of operation key 65 grade.

[0016]CPU50 (central processing unit) is a means which controls the electronic camera 100 wholeAccording to the input from the operation key 65the touch tablet 66the various detector circuits 70the electric power switch 17the timer 74the light measurement circuit 13the GPS circuit 61and the posture detecting circuit 62the photography control circuit 60the wireless communication circuit 71the wireless telephone circuit 72the screen control circuit 92The various directions to the control circuit 64 are performed.

[0017]While the recording circuit 80 records the sound for a memo which a photography person utters after the sound which a photographic subject utters

at the time of photography or photography as voice data based on control of CPU50 voice data is stored in a graphics file with image data. The sound reproduction circuit 81 reproduces the voice data stored in the graphics file with image data at the time of image data reproduction based on control of CPU50 or reproduces other voice data.

[0018] The light measurement circuit 13 measures the luminosity of a photographic subject and outputs the light measurement data which is the measurement result to CPU50. CPU50 controls the diaphragm value of the diaphragm 53 by the throttling control circuit 54 via the photography control circuit 60 according to this information set while setting up the exposure time of CCD55 and sensitivity by CCD drive circuit 56 according to light measurement data.

[0019] CPU50 controls photographing operation by photographing mode via the photography control circuit 60 according to operation of the release button 15. CPU50 makes the stroboscope 12 emit light via the strobe driving circuit 73 based on light measurement data at the time of photography when a photographic subject is dark.

[0020] The GPS circuit 61 (global positioning system circuit) detects the position information on the electronic camera 100 using the information from two or more satellites which are going around the earth around and supplies camera station information to CPU50 at the time of picture photography. The posture detecting circuit 62 comprises a well-known attitude sensor (a gyro sensor and azimuth sensor) etc. in order to detect the posture of the electronic camera 100 it detects the attitude information of a camera and supplies shooting posture information to CPU50 at the time of picture photography.

[0021] The timer 74 contains a clock circuit detects the date information corresponding to the present time and supplies photographing date information to CPU50 at the time of photography. CPU50 controls each part according to the control program memorized by ROM67 (read-only memory). EEPROM68 (ROM which can be electrically eliminated written in) is a nonvolatile memory and has memorized setup information required for operation of the electronic camera 100 etc. CPU50 detects the operating condition of the electric power switch 17 and controls the power supply 63 via the control circuit 64.

[0022] The photography control circuit 60 performs focusing of the taking lens 10 and zooming by the lens drive circuit 52 extracts them by the throttling control circuit 54 controls 53 controls the light exposure of CCD55 and controls operation of CCD55 by CCD drive circuit 56. The light flux from a photographic subject is formed as an object image on CCD55 via the diaphragm 53 for light volume regulation with the taking lens 10 and this object image is picturized by CCD55. CCD55 [ provided with two or more pixels ] (charge coupled device) is a charge storage type image sensor for picturizing an object image. The

electric picture signal according to the intensity of the object image formed on CCD55 is outputted to the analog processing part 57 according to the drive pulse supplied by CCD drive circuit 56. The field which enters in the field angle decided by the usual picture area size of CCD55 and the focal distance of the taking lens 10 will be photoed as image data in a photography screen. [0023]While the photography control circuit 60 repeats above-mentioned operationthe screen control circuit 92 reads the digital data stored in the photography buffer memory 59 one by one via data / control bus 51and once stores it in the frame memory 69This digital data is changed into the image data for a displayit re-stores in the frame memory 69and operation of displaying this image data for a display on the left screen 21 is repeated. The screen control circuit 92 obtains text display information from CPU50 if neededit is changed into the text data for a displayand it stores it in the frame memory 69and displays this text data for a display on the left screen 21 and the right screen 22. Thusin photographing modesince the picture currently picturized by CCD50 on the left screen 21 is displayed on real timeit becomes possible to perform composition setting out for photographyusing this through screen as a monitoring screen.

[0024]The high frequency component of the digital data stored in the photography buffer memory 59 conducts degree analysisand the photography control circuit 60 detects the focus state of the taking lens 10and performs the focus of the taking lens 10 by the lens drive circuit 52 according to a detection result. The photography control circuit 60 makes an object image picturize by CCD55 via CCD drive circuit 56 at the time of photographywhen photographing instruction is received from CPU50The picture signal generated by image pick-up is once stored in the photography buffer memory 59 as digital data (raw data) via the analog processing part 57 and the A/D conversion circuit 58. The photography control circuit 60 changes or compresses into predetermined recording formats (JPEG etc.) the digital data once stored in the photography buffer memory 59forms image dataand re-stores this image data in the photography buffer memory 59.

[0025]CPU50 obtains the position information on electronic equipment while it communicates with electronic equipmentsuch as a cellular phone which the photographic subject possesses by the wireless communication circuit 71and collects the pertinent information about a photographic subject. CPU50 The posture detecting circuit 62 to the GPS circuit 61 to camera station information and shooting posture informationThe focal distance information of the taking lens 10 comes to hand from the photography control circuit 60and the position information in a screen which shows the position of the photographic subject in a screen by the method of mentioning later based on the position informationthe camera station informationthe shooting posture

information and focal distance information of said electronic equipment is calculated. CPU50 is stored in the memory card 104 by making pertinent information about said image data and a photographic subject and position information in a screen on a photographic subject into a graphics file.

[0026] In reproduction mode the screen control circuit 92 reads the graphics file directed to CPU50 from the memory card 104 and once stores it in the frame memory 69 while changing this image data into the image data for a display - storing in the frame memory 69 and displaying this image data for a display on the left screen 21 according to directions of CPU50 text data such as explanation of reproduction mode is stored in the frame memory 69 and this text data is displayed on the right screen 22. If the wireless telephone circuit 72 receives transmission instruction from CPU50 in reproduction mode the specified graphics file will be read from the memory card 104 and wireless transmission of this graphics file will be carried out outside.

[0027] In information-display mode first CPU50 carries out the superimposed display of the information icon to the position according to the position information in a screen on a photographic subject while making the left screen 21 carry out the repeat display of the predetermined image data by the screen control circuit 92 like reproduction mode. The text data for explanation is displayed on the right screen 22. If said information icon is selected with the touch tablet 66 in information-display mode CPU50 based on the photographic subject pertinent information related with the position information in the screen the sources of information (homepage etc.) on the Internet are accessed by the wireless telephone circuit 72 the screen of the homepage etc. are displayed on the left screen 21 and an operation description screen is displayed on the right screen 22.

[0028] Drawing 6 shows the data configuration of the graphics file stored in the memory card 104. As shown in drawing 6 two or more graphics files are saved at the memory card 104. Each graphics file comprises image data and additional information data. The film information data which additional information data shows various setting out at the time of photography (drawing 7) The date information data in which the time which took a photograph is shown the position information in which the position which performed photography is shown. The voice information data recorded after the time of the attitude information data in which the posture of a camera when a photograph is taken is shown and photography or photography It comprises object information data in which the information relevant to the photographic subject inputted after the time of the general information data (drawing 8) in which the general information about the photography inputted after the time of photography or photography is shown and photography or photography is shown.

[0029] Object information data comprises pertinent information on the

photographic subjects (a persona buildingsceneryetc.) which have moved to the photoed screen. For examplewhen a photographic subject is a personin the case of a building etc. the person's personal information data (drawing 9) and photographic subject comprise general information data about the building.

[0030]Drawing 7 is a figure showing the composition of film information dataand comprises setup information about setting out of the taking lens at the time of photographyor setting out of a camera. Drawing 8 is a figure showing the composition of general information dataand comprises data showing the access information (home page address etc.) and the contents of information content in the Internet of the information corresponding to each informationand position information of transmitting [ the information ] origin.

[0031]The position information in a screen which drawing 9 is a figure showing the composition of personal information dataand shows which photographic subject in a screen this personal information supportsIt comprises data of the position information on the electronic equipment of transmitting [ this personal information ] originthe individual's Internet access information data (URL of a homepageetc.)an E-mail addressan individual namea date of birthusing languagephysical data (eyesighta diopter scalehandedness)taste (color etc.) and others.

[0032]Drawing 10 is a state transition diagram of the embodiment of the electronic camera 100 by this invention. There are the three modesphotographing modereproduction modeand information-display modein the operational mode of an electronic cameraand between each mode is shifted by operation of three manual operation buttons (the photography mode button 25the reproduction mode button 26the information-display mode button 27). If a power supply is turned onit will shift to photographing mode first. In photographing modephotographing operationradio-traffic operationand creation and storage operation of a graphics file are performed. In reproduction modethe reproduction motion of a graphics file and the send action to the exterior of a graphics file are performed. In information-display modethe Internet is accessed based on the additional information data corresponding to image dataand the information relevant to image data is collected and displayed.

[0033]Drawing 11 is a main flowchart of operation of the electronic camera 100 (CPU50) in the above-mentioned embodiment. If the electric power switch 17 is first operated by S10it is set to ONand a power supply will perform a photographing mode subroutine by S20and will be in a photographing possible state. If the release button 16 is operated in photographing modethe release interrupt-processing subroutine of S30 will be performedand photographing operation will be performed. The radio interruption subroutine of S40 is called from the release interrupt-processing subroutine of S30 simultaneously with photographythe electronic equipment and the radio traffic which exist in

the circumference of an electronic camera are performed and object information data and general information data are collected. The object information data and general information data which were collected are constituted as additional information data with film information data and are stored in the memory card 104 as a graphics file together with image data.

[0034] If three manual operation buttons (the photography mode button 25, the reproduction mode button 26, the information-display mode button 27) are operated in each operational mode, mode change interrupt processing of S50 will start and a change in each mode will be performed according to the kind of manual operation button.

[0035] While reading the graphics file saved at the memory card 104 in the reproduction mode of S60 and carrying out the repeat display of the image data to a display screen, if the transmission button 28 is operated, the transmitting interrupt-processing subroutine of S70 will be performed and the graphics file containing the image data currently reproduced by reproduction mode will be transmitted outside.

[0036] While carrying out the repeat display of the image data to a display screen first in the information-display mode of S80 so that it may mention later, the information which accessed the Internet and was collected based on the Internet access information included in the photographic subject information itself or this photographic subject information that it has the position information in a screen corresponding to the position specified as the user with the touch tablet 66 on the display screen is displayed on a display screen.

[0037] Drawing 12 is a detail flowchart of a photographing mode subroutine and if it starts by S20, it will repeat processing of S201. The image data generated by CCD55 one by one based on the photographing-settings conditions which the user set up in S201 is displayed on the left screen 21 as shown in drawing 13. It checks and when it is not photographing mode, the return of whether for drawing 14 which carries out the text display of the photographing-settings conditions at that time to the right screen 22 to be a detail flowchart of a release interrupt-processing subroutine and to be photographing mode in S301 when it is started by S30 is carried out by S305. Imaging operation is performed on the photographing-settings conditions set as the user by S302 in the case of photographing mode, image data is generated, it performs the radio-traffic processing subroutine of S40 mentioned later next and generates additional information data. In S303, image data and additional information data are gathered, a graphics file is generated and it saves at the memory card 104. In S304, only predetermined time displays image data on a screen and carries out a return S305. Image data has predetermined photography screen size and the photoed photographic subject will be arranged at some position in this

photography screen according to photographing composition.

[0038]It is a detail flowchart of a radio-traffic processing subroutineand if it starts by S40drawing 15 checksand when it is not photographing modeit will carry out the return of whether it is photographing mode in S401 by S408. In the case of photographing modea radio traffic is tried by the wireless communication means 71 to the electronic equipment (fixed setting out is carried out [ near / which the person who becomes a photographic subject possesses / a cellular phone or near the historic relics ]and it is an electronic sightseeing guide device which can transmit by a radio traffic about the sightseeing information of these historic relics) in the circumference of the electronic camera 100 by S402. In that casethe signal transmission output in the case of a radio traffic is changed according to the focal distance of a taking lens. For examplesince it is surmised that a photographic subject exists in a long distance so that a focal distance is longa signal transmission output level is enlarged. When communication is not materialized in S403a return is carried out by S408. When communication is materializedthe position information and object information data (or general information data) of electronic equipment are acquired from a communication partner's electronic equipment by which communication was materialized in S404 by a radio traffic. While receiving the position information on electronic camera 100 self from the GPS circuit 61 in S405The attitude information of electronic camera 100 self is received from the posture detecting circuit 62and the position of the photographic subject (electronic equipment) over the electronic camera 100 is searched for so that it may mention later from the position information on said electronic equipmentthe position information on the electronic camera 100and the attitude information of the electronic camera 100. While calculating the field angle at the time of photography from the usual picture area size of this focal distance information and an image sensor so that the focal distance information of the taking lens 10 may be received from the photography control circuit 60 and may be later mentioned in S407Based on the position information on the photographic subject over said electronic camera 100the position (position information in a screen) of the photographic subject in the photoed screen is generatedand a return is carried out by S408.

[0039]If drawing 16 is a sequence diagram for explaining the radio-traffic operation performed between the electronic camera in the case of the above-mentioned release interrupt processing and radio-traffic processingand electronic equipment and release operation is first carried out by the electronic camera 100 sidePhotographing operation is performed according to it and the radio traffic of \*\* communication request is tried to the electronic equipment which is in the circumference from the electronic camera 100 side

next. \*\* In a communication requestthe identification information of the electronic camera 100 in which a transmitting agency is shown is also transmitted.

[0040]The electronic equipment which received this \*\* communication request is answered and made into thisperforms \*\* response to the electronic camera 100and transmits the identification information of the electronic equipment of a transmitting agencyand the electronic camera identification information of a transmission destination. \*\* The electronic camera 100 which received the response transmits \*\* information requirementsin order to specify a communication partner's electronic equipment and to require pertinent informationwhile checking a communication partner based on the identification information of electronic equipment. \*\* In information requirementsthe contents etc. of the identification information of the electronic equipment of a transmission destinationthe identification information of the electronic camera 100 of a transmitting agencyand the information to demand are transmitted to the electronic equipment side.

[0041]\*\* As for the electronic equipment corresponding to the identification information of the electronic equipment contained in information requirements\*\* transmitting information uses demanded pertinent information (position informationaccess informationetc.) as an electronic camera. \*\* The identification information of the electronic camera 100 of a transmission destinationthe identification information of the electronic equipment which shows a transmitting agencyand pertinent information are included in transmitting information.

[0042]The electronic camera 100 receives \*\* transmitting information from electronic equipment. If \*\* transmitting information from this electronic equipment is received while the electronic camera 100 performs \*\* information requirements one by one to all the electronic equipment which answered \*\* communication requestit ends a radio trafficgenerates a graphics fileand saves this graphics file at the memory card 104.

[0043]Drawing 17 and drawing 18 are the explanatory views of how to ask for the position information in a screen of a photographic subject. Object position information data and camera station information data are given as a position coordinate in the three-dimensional coordinate system centering on predetermined reference origins. As first shown in drawing 17it changes into the coordinate system (the direction of an axis P:camera optical axisan axis Q:camera transverse directionthe axis R: camera lengthwise direction) which carried out parallel translation of the starting point of said standard coordinates to the central point 3 (camera station) of the electronic camera 100and the position coordinate of the photographic subject 203 after conversion is searched for.

[0044]As shown in drawing 18the field angle 5 (a dashed dotted line shows) is computed by the photographing optical axis direction (P axis) from the usual picture area size of focal-distance-information [ of a taking lens ]and CCD20. nextdirection calculation of the straight line which connected the starting point 3 and the object position 203 — it carries out. by comparing the direction of the field angle 5 and the straight line 4as shown in whether the photographic subject is contained in the screenand drawing 19the position (position information in a screen) in the screen of a photographic subject is computable.

[0045]If drawing 20 is a detail flowchart of the mode change interrupt-processing subroutine started by operation of a manual operation button (the photography mode button 25the reproduction mode button 26the information-display mode button 27) and it starts by S50It confirms whether the button operated by S501 is the photography mode button 25and in being the photography mode button 25it shifts to the photographing mode subroutine of S20. It confirms whether when it is not the photography mode button 25the button operated by S501 is the reproduction mode button 26and in being the reproduction mode button 26it shifts to the reproduction mode subroutine of S60. When it is not the reproduction mode button 26it shifts to the information-display mode subroutine of S80.

[0046]Drawing 21 is a detail flowchart of a reproduction mode subroutineand if it starts by S60it will repeat processing of S601. In S601the image data in the graphics file stored in the memory card 104 according to operation of the direction buttons 23 and 24 is chosen and readand as shown in drawing 22while carrying out a repeat display to the left screen 21explanation of an operation method is displayed on the right screen 22.

[0047]It is a detail flowchart of a transmitting interrupt-processing subroutineand if it starts by S70drawing 23 checksand when it is not reproduction modeit will carry out the return of whether it is reproduction mode in S701 by S703. In the case of reproduction modeby S702as shown in drawing 24a transmission destination is displayed on the right screen 22. The transmission destination to the photographic subject in the screen by which the repeat display is carried out to the present left screen 21 is also included in a transmission destination. If a transmission destination is specified by the userthe graphics file containing the image data by which the repeat display is carried out to the present left screen 21 will be read from the memory card 104this graphics file will be transmitted to the transmission destination specified by the user by the wireless telephone circuit 72and a return will be carried out by S703.

[0048]Drawing 25 is a detail flowchart of an information-display mode subroutineand if it starts by S80it will display the home screen in

information-display mode by S801 first. As shown in drawing 22 image data is expressed on the left screen 21 as a home screen. The image data by which the repeat display was carried out to the left screen 21 by reproduction mode when it shifted to information-display mode from reproduction mode is displayed as it is and when it shifts to information-display mode from photographing mode the image data of the graphics file photoed at the end is displayed. While the icons 82 and 83 which show photographic subject information are displayed on the position according to the position information in a screen which is overlapped on the left screen 21 at image data (superimposition) and is contained in additional information data. The icon 86 for displaying the icon 84 and general information for displaying the news of a photographing day according to the icon 85 and photographing date information data for displaying a map according to camera station information data is displayed. The operation description to the left screen 21 is displayed on the right screen 22.

[0049] If a user touches the icon of a request of the left screen 21 by S802 the position on the screen where it was touched by the user with the touch tablet 66 will be detected and it will branch to the following steps according to this touch position. When touched in the icon 85 in drawing 26 it branches to S803. The map data base on the Internet is accessed by wireless telephone circuit 72 course and as the map data which includes a camera station according to the camera station information on the image data displayed on the home screen is downloaded from a map data base and it is shown in drawing 27 it displays on the left screen 21. If the reduction icon 87 and the expansion icon 88 are superimposed and displayed on the left screen 21 by the map screen and a user touches them the icon \*\*\*\*\* map screen where it was touched will be reduced or expanded. The image data currently displayed on the home screen is displayed on the right screen 22 with a thumbnail image (reduction image) and if a user touches this thumbnail image portion it will return to the home screen of S801.

[0050] When touched in the icon 84 in drawing 26 it branches to S804. The news database on the Internet is accessed by wireless telephone circuit 72 course and as the news data by which it was generated at the photographing date according to the photographing date information on the image data displayed on the home screen is downloaded from a news database and it is shown in drawing 28 it displays on the left screen 21. If a news list and the detailed icon 89 are displayed on the left screen 21 and a user touches a detailed icon the details of the touched news will be further displayed on the left screen 21. The image data currently displayed on the home screen is displayed on the right screen 22 with a thumbnail image (reduction image) and if a user touches this thumbnail image portion it will return to the home screen of S801.

[0051]When touched in the icon 82 or the icon 83 in drawing 26 it branches to S805The sources of information (a homepage and a database) which accumulated the detailed information relevant to the photographic subject on the Internet by the wireless telephone circuit 72 course according to the Internet access information data contained in the photographic subject information which an icon shows are accessedand the top screen of the homepage is displayed. For examplewhen the icon 82 is touchedit can link to another homepage [ \*\*\*\* / the top screen of the homepage of the person who is a photographic subject being displayed on the left screen 21as shown in drawing 29and displaying the screen of further a lower layer by operation of the touch tablet 66 ]. When the icon 83 is touchedas shown in drawing 30the description screen of the historical building reflected to the screen is displayed on the left screen 21and still more detailed description and picture can be displayed on the left screen 21 by operation of the touch tablet 66. The image data currently displayed on the home screen is displayed on the right screen 22 with a thumbnail image (reduction image)and if a user touches this thumbnail image portionit will return to the home screen of S801.

[0052]Drawing 31 is an explanatory view showing the composition of the wireless communication circuit 71 in an electronic cameraand the wireless communication circuit 71 is having the camera back (a direction opposite to a photographing optical axis direction = the direction of a photography person)the undersurfacethe upper surfaceand the side on either side surrounded by the electromagnetism shield film 79. Thereforewhile the wireless communication circuit 71 tends to carry out communication with the portable device 160 which the photographic subject located in the bearing of the exposure axis of a camera possesses and being able to collect photographic subject information certainlySince communication considers it as the portable device possessed except the photographic subject which is not in a photographing optical axis direction and it is hotit can avoidcollecting useless information other than a photographic subject if possible. Drawing 32 is a figure showing the directivity of communication of the wireless communication circuit 71it has directivity strong against the front direction (the direction of the optic axis 40) of the electronic camera 100and the directivity of a back direction is weak.

[0053]By giving directivity strong against the bearing of the exposure axis of a camera for the wireless communication circuit 71 by composition shown in drawing 31 as mentioned abovethe probability which can communicate with the electronic equipment which a photographic subject possesses can be raised. Directive adjustment can also be adjusted by composition of an antenna in addition to an electromagnetism shield film.

[0054]Although the electronic camera 100 communicates with surrounding

electronic equipment at the time of photography and photographic subject information is collected in radio-traffic processing of drawing 16 it may be made to transmit photographic subject information to the electronic camera which performed photography from the electronic equipment side by the side of a photographic subject before and after photography. For example storage of the personal information of the user who possesses this cellular phone 160 by wearing of a UIM card etc. is carried out to the cellular phone 160 which a photographic subject possesses as shown in drawing 33. The cellular phone 160 is provided with the display screen 161 and the manual operation button 162. When the person who becomes a photographic subject transmits the person's personal information to the electronic camera side if the manual operation button 162 of the cellular phone 160 is operated first the cellular phone 160 will serve as a personal information transmitting mode and will transmit photographic subject information to an electronic camera. The electronic camera of a transmission destination and the purport of a sending end are displayed that transmission is completed on drawing 34 at the display screen 161. Since the propriety of transmission of personal information can be determined by the photographic subject side if it does in this way personal information can be prevented from flowing out carelessly.

[0055] In detection of the position in the screen of the photographic subject shown in drawing 18 although the position information on an electronic camera and the position information on electronic equipment which were detected by GPS are used the position in a screen of a photographic subject may be detected by methods other than this. Drawing 35 is an example in the case of using the narrow directivity radio antenna 75 (the directivity 43 has directivity very strong against one way 42 as shown in drawing 36) used as an antenna for communication of the wireless communication circuit 71 and detecting the position in the photography screen of a photographic subject. It is indicated by JP2000-278037A etc. about the detailed composition of such a small directional antenna.

[0056] The actuator 76 which carries out the scanning drive of the direction of the narrow directivity radio antenna 75 and this narrow directivity radio antenna 75 mechanically and changes it is built in the electronic camera 100. Driving in the case of the radio-traffic processing at the time of photographing so that this narrow directivity radio antenna 75 may scan the inside of a photography screen by the actuator 76 CPU50 communicates with the photographic subject in a screen by the wireless communication circuit 71 and collects object information data. Thereby the scanning position (position information in = screen) and object information data of the narrow directivity radio antenna 75 can be matched.

[0057] It checks and when it is not photographing mode the return of whether for

drawing 37 to be a detail flowchart of the radio-traffic processing subroutine which used the above-mentioned narrow directivity radio antenna 75 and to be photographing mode in S411 when it is started by S40 is carried out by S419. In the case of photographing mode the scanning position of the above-mentioned narrow directivity radio antenna 75 is initialized by S412. Screen size is determined by the usual picture area size of the focal distance information of a taking lens and CCD. By the wireless communication means 71a radio traffic is tried to the electronic equipment (fixed setting out is carried out [near / which the person who becomes a photographic subject possesses / a cellular phone or near the historic relics] and it is an electronic sightseeing guide device which can transmit by a radio traffic about the sightseeing information of these historic relics) in the circumference of the electronic camera 100 by S413. When communication is not materialized in S414 it progresses to S417. When communication is materialized object information data is acquired from a communication partner's electronic equipment by which communication was materialized in S415 by a radio traffic. Let position information in a screen on object information data be the scanning position information on the narrow directivity radio antenna 75 in S416. In S417 the scanning position of the narrow directivity radio antenna 75 is updated. It confirms whether the scanning position of the narrow directivity radio antenna 75 is end position and when it is not end position while returning to S413 and repeating the above-mentioned operation when it is end position a return is carried out by S419 S418.

[0058] Drawing 38 is a display example of the home screen in information-display mode in the left screen 21 it is different from drawing 26 and an icon is not displayed. If a user touches the person and building which are displayed on the left screen a touch position will be detected with the touch tablet 66 and as photographic subject information with the position information in a screen according to a touch position shows drawing 39 it is displayed on the right screen 22. The arrow mark 44 is displayed on the position of the photographic subject on the left screen 21 corresponding to photographic subject information. If it does in this way while being able to appreciate without an obstructive icon the image data by which a repeat display is carried out to the left screen 21. If the photographic subject in which it interested on the left screen 21 is touched while being able to peruse photographic subject information on the right screen 22 displaying image data on the left screen 21 the relation between photographic subject information and the photographic subject on a picture can be checked. It also becomes possible to unify information-display mode and reproduction mode if it does in this way and to display photographic subject information directly from reproduction mode.

[0059]The outline of the object image in which the repeat display was carried out by image analysis as shown in drawing 40 is extractedWhen a user touches the field near this outline (it is the field 46 near the person 45 at drawing 40) it may be made to display the photographic subject information corresponding to the position information in a screen contained to this field 46 on the left screen 21. Even when doing in this way and face parts other than a position with the electronic equipment which transmitted photographic subject information to the electronic camera are touchedthis person's photographic subject information can be displayed.

[0060]Drawing 41 is a detail flowchart at the time of adding new processing between S801 and S802 of the information-display mode subroutine shown by drawing 25. This new processing is processing which transplants the photographic subject information on a similar graphics file which has photographic subject information in a graphics file without photographic subject information.

[0061]After displaying a home screen by S801while performing image analysis of image data by which the repeat display was carried out to the left screen 21 by S811 and identifying a major object (photographic subject which occupies a comparatively big area all over screenssuch as a person and a building)It checksand in existinghe follows to S802 whether the photographic subject information which has the position information in a screen in the field of this major object by S812 exists. When it does not existit searches for a graphics file with the same photographing date data as the photographing date data of the image data by which the repeat display is carried out in S813 within the memory card 104and it is extracted. Nextimage data with a photographic subject similar to the major object in the image data by which the present repeat display is carried out by conducting image analysis of the image data of this graphics file is extracted further. Nextwhen it is checked and attached [ whether the position information in a screen is attachedand ] to the similar photographic subject in the extracted image datathis photographic subject information as photographic subject information on the major object of the image data by which the present repeat display is carried outThe position information in a screen according to the position in the screen of the major object specified by image analysis is attachedand the graphics file of the image data by which the present repeat display is carried out is updated.

[0062]In S814camera station information datashooting posture information dataand focal-distance-information data are read from the graphics file containing the image data by which the present repeat display is carried outand a major object is specified according to this information data by the map data base on the Internetand the image analysis result of S813. For

examplewhen the object appropriate for a triangular mountain is reflected to the screen which went for Namikata and was photoed from near Yamanakakoit specifies that it is Mt. Fuji. When a major object is specifiedthis major object name is searched with the Internet in a keywordThe access information of the homepage on which description of the major object appears is acquiredthe position information in a screen according to the position in the screen of the major object distinguished by image analysis is attachedand the graphics file of the image data by which the present repeat display is carried out is updated.

[0063]It progresses to S802after transplanting photographic subject information to the graphics file which does not have photographic subject information as mentioned above from other graphics files and Internet. When doing in this wayphotographic subject information is not able to be acquired at the time of photography and image data is reproduced in information-display mode (when there is no sightseeing guide device which supplies photographic subject information on radio near the electronic camera with a scene camera etc.)the information about a photographic subject can be displayed. The range of the graphics file for which S813 is searched is not limited to the same photographing date. For exampleit may be made to search out of the graphics file of the predetermined number photoed before and after the graphics file without photographic subject information. Although the camera specified the photographic subject automatically from camera station information datashooting posture information dataand focal-distance-information data and has downloaded the information on the specified photographic subject from the Internet by S814Image data is perusedand as a user downloads the information on a photographic subject that the photographic subject was specified and specifiedfrom an input or the Internet and sticks this information on the object position on a screenhe may be made to update a graphics file.

[0064]Drawing 42 is another key map of the electronic image communications system using the electronic camera which applied this inventionand this electronic camera. Although the personal information data memorized by UIM card 170 with which the cellular phone 160 was equipped when the electronic camera 100 and the cellular phone 160 which a user possesses performed short-distance-radio communication in the electronic image communications system of drawing 2 is read into the electronic camera 100In the electronic image communications system of drawing 42if the wireless tag (noncontact IC card) which memorized personal information data approaches the electronic camera 100 which contained the non-contact radio reading partpersonal information data will be automatically read into the electronic camera 100 from a wireless tag.

[0065]in the electronic image communications system shown in drawing 42 as mentioned above -- a photographic subject -- a power supply -- the unnecessary

small wireless tag (noncontact IC card) is only held and it can communicate with the electronic camera 100. Since a radio traffic is performed in the above-mentioned embodiment (drawing 1drawing 11) between an electronic camera and the portable device which the photographic subject possesses at the time of photography of image data and photographic subject information (position information is included) is automatically transmitted to an electronic camera. Since the position information on the photographic subject in the time of photoing image data is acquirable while the special operation for acquiring photographic subject information becomes unnecessary when asking for the position information in a screen using this position information the position which was correctly equivalent to the actual position on a screen can be searched for. If the acquisition timing of the position information on a photographic subject is the timing near the photographic subject photographing timing (less than around 1 second is desirable) it can search for the position which was correctly equivalent to the actual position on a screen.

[0066] In the above-mentioned embodiment (drawing 1drawing 11) when carrying out the repeat display of the image data and perusing it it can peruse simple and promptly only by touching the icon and photographic subject which are displayed on the screen according to the position information in a screen in the information relevant to the photographic subject reflected all over the screen which got interested.

[0067] In the above-mentioned embodiment (drawing 1drawing 15) since short distance radio is used when acquiring photographic subject information from a photographic subject by a radio traffic while raising the probability which can communicate with the photographic subject which exists near the electronic camera and electronic equipment with an unrelated photographic subject which is in a long distance from an electronic camera can be eliminated. Since the signal transmission output level in the case of a radio traffic is adjusted according to the focal distance of a taking lens while being able to form a radio traffic certainly with a photographic subject a possibility that a radio traffic will be materialized can be lessened except a photographic subject.

[0068] Since the image data by which the repeat display was carried out by reproduction mode can be transmitted to the destination included in the object information data acquired at the time of photography of this image data in the above-mentioned embodiment (drawing 23) When the person who met by chance while traveling etc. is photoed need to hear a partner's address a e-mail address etc. and it is not necessary to cut them down and image data can be transmitted to the person who became a photographic subject simply. When many persons' set photograph is taken especially the time and effort of sending of image data can be saved and it is convenient.

[0069] Since the image data to which the photographic subject which becomes

origin was reflected is simultaneously displayed when displaying on a screen the photographic subject information specified as the user in information-display mode in the above-mentioned embodiments (drawing 27 etc.) (thumbnail image) since it can return to a home screen immediately by specifying image data with the touch tablet 66 while being able to grasp the relation of image data and a photographic subject intuitively the photographic subject information centering on image data is perused simple -- it can do.

[0070] In the above-mentioned embodiment (drawing 31drawing 32) Since it has restricted in the direction with high probability that a photographic subject exists the directivity of the radio of the wireless communication circuit 71 to an electronic device body with an electromagnetism shield sheet etc. When acquiring photographic subject information by a radio traffic while being able to form a radio traffic certainly with a photographic subject a possibility that a radio traffic will be materialized can be lessened except a photographic subject.

[0071] In the above-mentioned embodiment (drawing 33drawing 34) since photographic subject information was transmitted to the electronic camera by starting by the side of a photographic subject personal information etc. can be prevented from flowing out outside recklessly if needed. In the above-mentioned embodiment (drawing 37) since the inside of a screen is scanned using a narrow directivity radio antenna and the position information in a screen on a photographic subject was collected it is not necessary to have special positioning means such as electronic equipment by the side of a photographic subject and GPS and a system can be constituted in low cost.

[0072] In the above-mentioned embodiment (drawing 41) since photographic subject information is copied from a similar graphics file while image analysis detects the position information in a screen on a photographic subject it becomes possible to refer to photographic subject information at the time of an inspection also about the photographic subject which was not able to take photographic subject information at the time of photography. Since the photographic subject information about the photographic subject which specified the photographic subject by image analysis position information etc. and was specified from sources of information such as the Internet is collected while image analysis detects the position information in a screen on a photographic subject Also about the photographic subject which was not able to take photographic subject information at the time of photography it becomes possible to refer to photographic subject information at the time of an inspection.

[0073] Since he is trying to read photographic subject information in the noncontact IC card (wireless tag) which an electronic camera is provided with the reading circuit of a noncontact IC card (wireless tag) and the photographic

subject possesses in the above-mentioned embodiment (drawing 42) by non-contacta photographic subject is lightweight and small -- a power supply -- no operation only by only holding the unnecessary noncontact IC card is needed. (Explanation of a modification gestalt) Various modification and change are possible for this inventionwithout being limited to the embodiment described above.

[0074]the electronic equipment which an electronic camera and a photographic subject hold by radio (electric wave) in the above-mentioned embodiment (drawing 1) communicates -- photographic subject information -- acquiring -- \*\*\* -- although. In order not to form communication recklessly with the electronic equipment which persons other than a true photographic subject possessit is desirable to limit the output level of a wireless transmission signal within a predetermined valueand to restrict the range scale which can communicate supposing electronic equipment being provided with average receiving performance. Although said range scale is determined in consideration of how an electronic camera is usedthe existence of the radio-shielding thing between an electronic camera and electronic equipmentthe performance of the receiver of electronic equipmentetc. in the focal distance of the usual taking lenswithin about 10m is good.

[0075]Although the wireless communication circuit is communicating with short distance radio like blue TSUSU in the above-mentioned embodiment (drawing 1)Also except blue TSUSUwireless LAN (IEEE802.11) and infrared ray communication (IrDA) may be made to perform short-distance-radio communicationand it may communicateusing simultaneously two or more short-distance-radio methods. If it does in this wayno matter what function [ short-distance-radio ] the electronic equipment which the photographic subject holds may bringa radio traffic can be performed the electronic camera side.

[0076]Although photographic subject information is transmitted because the electronic equipment which an electronic camera and a photographic subject possess by radio (electric wave) in the above-mentioned embodiment (drawing 1) communicatesphotographic subject information may be transmitted by the noncontact method or a contact method by methods other than this. Although a sound can be recorded by the recording circuit 80 in the above-mentioned embodiment (drawing 5) at the time of photographyWhile recording the sound of the photographic subject which exists in the part in a screen using a narrow directivity microphone at the time of photographyWhen the photographic subject is specified with a touch tablet etc. in the screen by which the repeat display was carried out in information-display modeit may be made to play the this recorded soundwhile memorizing this recorded data to the position information in a screen and related price \*\*\*\*\* of a photographic subject. It has two or more narrow directivity microphonesand records

simultaneously to two or more photographic subjects in a screenand when each photographic subject is specified with a touch tablet etc. in the screen by which the repeat display was carried out in information-display modeit may be made to play the sound corresponding to each photographic subject.

[0077]It sends to an electronic camera by giving the description relevant to the sound and photographic subject which a photographic subject emits by a radio traffic from the electronic equipment with a microphone which the photographic subject possesses regardless of the time of photographyor photographing timingor the electronic equipment which has memorized the information about a photographic subject with voice data beforehandetc. photographic subject speech informationThe photographic subject speech information may be related with the position of the photographic subject in a photography screen by the position information in a screenand it may add and save at the image data which photoed the photographic subject. When reproducing and perusing this image data in information-display mode and each photographic subject is specified by pointing devicessuch as a touch tabletin a display screensound reproduction of the photographic subject speech information which was matched with the position of each photographic subject and memorized is carried out. If it does in this waynot only vision information but speech information can be usedand a visitor can be provided with the information on a photographic subject on many sides.

[0078]Although the touch tablet 66 is used for specifying the position on the left screen 21 and the right screen 22 in the above-mentioned embodiment (drawing 5)pointing devices other than this may be used. For examplea trackball and a mouse can be used as a screen position setting means. When an electronic finder (finder which is displayed by a small screen-display meansexpands a screen according to an optical systemand a user is made to observe) is useda screen position can be specified by detecting a user's sight line direction (a line of sight positiona gazing position). When using the touch tablet 66it is good only by having specified the more exact position or a finger describing a screen by using the member (pen) only for tab control specification in addition to a user's finger for photographic subject information not to be displayed recklessly and also make.

[0079]Although photographic subject information is transmitted because the electronic equipment which an electronic camera and a photographic subject possess by radio (electric wave) in the above-mentioned embodiment (drawing 9) communicatesAdvice of receipt of photographic subject information may be performed from an electronic camera at the electronic equipment which transmitted photographic subject information to the electronic cameraand it may indicate that photographic subject information was transmitted in the electronic equipment by the side of a photographic subject. Electronic

equipment may report that photographic subject information was transmitted using the pronouncing means to the person who becomes a photographic subject. [0080] If it does in this wayit can recognize that photographic subject information was transmitted by the photographic subject side. While being able to recognize that photographic subject information was transmitted when electronic equipment is not provided with the displaying means by performing information by a sound oras for the person who becomes a photographic subject in the pocket of the clothes of a photographic subject etc. put [ electronic equipment ]the user can recognize that photographic subject information was transmitted.

[0081] In the above-mentioned embodiment (drawing 11)although photographing mode operationreproduction mode operationand information-display mode operation are performed in the electronic cameraTake a photograph with an electronic cameragenerate image datacollect photographic subject information and the position information in a screen by a radio trafficand a graphics file is createdThis graphics file is transmitted to image display devices other than an electronic camera on-line or off-lineand it may be made to perform operation in reproduction mode and information-display mode in this image display device.

[0082] In the above-mentioned embodiment (drawing 11)although reproduction mode and information-display mode are switched by manual operationWhen a user specifies the photographic subject in the prescribed position in a screen with a touch tablet in the display screen reproduced by reproduction modeit may be made to display the photographic subject information relevant to this photographic subject. If it does in this waywhen [ at which reproduction mode and information-display mode are switched ] it interests without carrying out while perusing image datathe information about the photographic subject can be seen immediately.

[0083] It may be made to play the voice data recorded by the recording circuit 80 at the time of photography by the sound reproduction circuit 81 in the reproduction mode and information-display mode of the above-mentioned embodiment (drawing 11) at the time of image data playback. The music which was in fashion from the music database on the Internet then based on photographing date data is downloadedand it may be made to carry out music reproduction automatically as background music at the time of image data playback. If it does in this wayalso visuallysimultaneously auditorily it becomes easy to remember the thing at the time of photographyand a picture inspection can be enjoyed.

[0084] Although a photography person is not notified of the electronic camera about the photographic subject information which communicated with the photographic subject at the time of photographyand was collectedit may be made

to display the list of photographic subject information collected with the photoed image data in the above-mentioned embodiment (drawing 14). If it does in this waythe photography person can recognize what kind of photographic subject information were collected at the time of photographyand when there is information which runs shorthe can take the measure of the further information gathering if needed.

[0085]In the above-mentioned embodiment (drawing 15)although an electronic camera tries the electronic equipment and the radio traffic which are in the circumference of an electronic camera for photographic subject information gathering at the time of photographythe electronic equipment which the photography person of an electronic camera possesses may be set up not perform a radio traffic beforehand. When the electronic equipment and the radio traffic which the photography person possesses at the time of photography are performedit may record as photography person information as one item of film information data.

[0086]Although an electronic camera tries the electronic equipment and the radio traffic which are in the circumference of an electronic camera for photographic subject \*\*\*\*\* at the time of photography in the above-mentioned embodiment (drawing 15)At this timeit may be made to change the sending-signal output level of a radio traffic (an electric waveinfrared rays) according to object distance (an output level is enlargedso that object distance is far). The object distance can use the object distance of the taking lens set up with the distance detected by the well-known distance sensing deviceor hand control. If it does in this waywhile communication will be possible in the electronic equipment which a photographic subject holdsand high probabilitythe electronic equipment held except a photographic subject and probability that communication will be materialized can be lessened.

[0087]Although a radio traffic is performed in the above-mentioned embodiment (drawing 16) between an electronic camera and the electronic equipment which the photographic subject holds at the time of photography and photographic subject information is automatically transmitted to an electronic cameraWhen electronic equipment receives \*\* communication request or \*\* information requirements from an electronic camerawhile electronic equipment reports to a photographic subjectit may be made to change whether subsequent communication is continued according to directions of a photographic subject. If it does in this waythe photographic subject can refuse communication if needed and personal information can be prevented from flowing out outside more than needed.

[0088]When electronic equipment receives \*\* communication request or \*\* information requirements from an electronic cameraIt may not be made not to perform subsequent communication in the case of the electronic camera with

which electronic equipment is not registered in the identification number of the electronic camera which has transmitted the communication request as compared with the identification number of the electronic camera beforehand registered into electronic equipment. If it does in this way the outflow range of personal information is automatically controllable.

[0089] Although a radio traffic is performed in the above-mentioned embodiment (drawing 16) between an electronic camera and the electronic equipment which the photographic subject holds at the time of photography and photographic subject information is automatically transmitted to an electronic cameraA radio traffic is performed between an electronic camera and the electronic equipment which the photographic subject holds in addition to the time of photographyand photographic subject information may be made to be transmitted to an electronic camera automatically. While not performing a radio traffic to the degree of photography (exposure bracket photographing etc.) and being able to perform a series of photography closing quickly in photoing several sheets in the same composition if it does in this wayCollection of the photographic subject information over two or more image data can be performed after the end of photography etc. in 1 time of the radio traffic [ automatic or ] by hand control.

[0090] Although a radio traffic is always performed in the above-mentioned embodiment (drawing 16) between an electronic camera and the electronic equipment which the photographic subject holds at the time of photography and photographic subject information is automatically transmitted to an electronic cameraWhen delay arises in photographing operation for a radio trafficit may be made to forbid the radio-traffic operation for photographic subject information acquisition. For exampleif it forbids a radio traffic automatically in performing a seriography (continuous shooting)between the tops of a seriography can be prevented from becoming long for radio-traffic operation.

[0091] In the above-mentioned embodiment (drawing 18)although the position information in a screen on a photographic subject is computed by the attitude information of an electronic camerathe electronic camera by GPSand the positioning information of electronic equipmentthe position information in a screen on a photographic subject may be detected by methods other than this. For examplethe light-receiving position on an image sensor is detected from the image data picturized with the two-dimensional infrared imaging detector prepared for the case where an electronic camera and the electronic equipment which a photographic subject holds communicate using infrared rays at the electronic camera sideand it may be made to pinpoint the position in the screen of electronic equipment. A two-dimensional infrared imaging detector detects the position of the infrared point light source in which electronic

equipment emits only the position information in a screenand it may be made for communication of photographic subject information to use radio (electric wave). In that caseelectronic equipment makes the above-mentioned infrared point light source turn on to the timing which performs a radio traffic.

[0092]Although the Internet is accessed and the photographic subject information according to the touch position of the user on a screen is displayed in information-display mode in the above-mentioned embodiment (drawing 25) It is not necessary to necessarily access the Internetand when the photographic subject information collected at the time of photography is enoughit may be made to carry out a screen display only of this photographic subject information. Since it is not necessary to access the Internet in the case of presenting of photographic subject information if it does in this wayphotographic subject information can be displayed promptly and a user's stress kept waiting in the case of an inspection can be reduced.

[0093]Although the image data photoed in the size of the predetermined photography screen in information-display mode is coincided with the size of a display screena repeat display is carried out in the above-mentioned embodiment (drawing 26) and the photographic subject information corresponding to the position on the display screen specified by the user is displayed on a display screenIt is not necessary to not necessarily coincide the size of a photography screen and a display screenand it expands or reduces and may be made to display a photography screen on a display screen.

Modificationrotationetc. are performed and it may be made to display image data on a display screen. Thuswhen a photography screen and a display screen are not in agreementcoordinate conversion of the position specified on the display screen is carried out to the position on a photography screen (expansionreductiona shiftrotationetc.) and photographic subject information is displayed based on the changed position coordinate. If it does in this waywhile it will become unnecessary to carry out shape of a photography screen and a display screen in collaboration and use in information-display mode will be attained in various image display deviceswhen the photographic subject is approached and intermingledafter expanding a display screena desired photographic subject can be specified.

[0094]An electronic camera is provided with two display screensin the above-mentioned embodiment (drawing 27)while displaying the photographic subject information on one screen in information-display modeare displaying image data including a photographic subject on another screen (thumbnail image)but. When the electronic camera is provided only with one screenwhile displaying photographic subject information by the full screenthe superimposed display of the image data including a photographic subject may be carried out to the part. Since the image data which becomes photographic subject information and the

origin of it can be simultaneously perused even when there is only one display screen if it does in this way the relation of photographic subject information and image data can be caught intuitively.

[0095]

[Effect of the Invention] In an electronic camera an image display device and an image display method according to this invention as explained above While adding the pertinent information on said photographic subject related with the position of the photographic subject in a screen to electronic image data and memorizing it when the repeat display of said electronic image data is carried out Since the pertinent information on said photographic subject was displayed according to the position in a screen when carrying out the repeat display of the electronic image data and perusing it it cooperates with the repeat display of electronic image data and the information relevant to the photographic subject reflected all over the screen which got interested can be perused simple and promptly.

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is an explanatory view showing the concept of the embodiment of this invention.

[Drawing 2] It is an explanatory view showing the system configuration of the embodiment of this invention.

[Drawing 3] It is an outline view (front view) of the electronic camera by this invention.

[Drawing 4] It is an outline view (back view) of the electronic camera by this invention.

[Drawing 5] It is a block diagram showing the electric composition of the electronic camera by this invention.

[Drawing 6] It is a lineblock diagram of the data in a memory.

[Drawing 7] It is a lineblock diagram of film information data.

[Drawing 8] It is a lineblock diagram of general information data.

[Drawing 9] It is a lineblock diagram of personal information data.

[Drawing 10] It is a state transition diagram of the electronic camera by this invention.

[Drawing 11] It is a flow chart of a main program.

[Drawing 12] It is a flow chart of a subroutine.

[Drawing 13] It is a display example of a screen.

[Drawing 14] It is a flow chart of a subroutine.

[Drawing 15] It is a flow chart of a subroutine.

[Drawing 16] It is an explanatory view of a communication sequence.

[Drawing 17] It is an explanatory view of position information detection.

[Drawing 18] It is an explanatory view of position information detection.

[Drawing 19] It is an explanatory view of position information detection.

[Drawing 20] It is a flow chart of a subroutine.

[Drawing 21] It is a flow chart of a subroutine.

[Drawing 22] It is a display example of a screen.

[Drawing 23] It is a flow chart of a subroutine.

[Drawing 24] It is a display example of a screen.

[Drawing 25] It is a flow chart of a subroutine.

[Drawing 26] It is a display example of a screen.

[Drawing 27] It is a display example of a screen.

[Drawing 28] It is a display example of a screen.

[Drawing 29] It is a display example of a screen.

[Drawing 30] It is a display example of a screen.

[Drawing 31] It is an explanatory view of the composition of a wireless circuit.

[Drawing 32] It is an explanatory view of communication directivity.

[Drawing 33] It is an outline view of a cellular phone.

[Drawing 34] It is a display example of a screen.

[Drawing 35] It is an explanatory view of the position information detection in a screen.

[Drawing 36] It is an explanatory view of communication directivity.

[Drawing 37] It is a flow chart of a subroutine.

[Drawing 38] It is a display example of a screen.

[Drawing 39] It is a display example of a screen.

[Drawing 40] It is an explanatory view of photographic subject specification.

[Drawing 41] It is a flow chart of a subroutine.

[Drawing 42] It is an explanatory view showing the system configuration of another embodiment of this invention.

[Description of Notations]

10 Taking lens

16 Release button

17 Electric power switch

19 Mode dial

21 The left LCD (left screen)

22 The right LCD (right screen)

23 Above button

24 Down button

25 Photography mode button

26 Reproduction mode button

27 Information-display mode button

28 Transmission button  
29 Determination button  
50 CPU  
51 Data/control bus  
55 CCD  
60 Photography control circuit  
63 Power supply  
66 Touch tablet  
71 Wireless communication circuit  
72 Wireless telephone circuit  
100 Electronic camera  
104 Memory card  
130 Internet  
160 Cellular phone  
170 UIM card  
180 Wireless tag

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